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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,547	09/25/2003	William O. Camp JR.	9314-47	3725

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EXAMINER	
ALAM, FAYYAZ	

ART UNIT	PAPER NUMBER
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/672,547	CAMP ET AL.	
	Examiner	Art Unit	
	Fayyaz Alam	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/16/04, 9/25/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement submitted on 12/16/2004 and 9/25/2003 been considered by the Examiner and made of record in the application file.

Claim Objections

Claim 15 is objected to because of the following informalities: In line 9 add the word "time" after the word "GPS". Appropriate correction is required.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The examiner suggests the following title, "Estimating GPS Time At Cellular Terminals Based On Timing Data From Base Stations And Satellites".

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8 and 9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims recite data structure, which is considered to be non-statutory (see MPEP 2106.01).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 - 22 are rejected under 35 U.S.C. 102(e) as being anticipated by **Turetzky et al. (U.S. Application # 2002/0173322).**

Consider **claim 1**, Turetzky et al. disclose a method for estimating GPS time in a mobile terminal that operates in a wireless communication system, the method comprising **(see abstract; [0045])**: generating at the mobile terminal a repository of cell-to-GPS timing data that is representative of a timing offset between GPS time and cell time for two or more cells with which the mobile terminal communicates **(since the phone calculates the offset between the system time and the GPS time and stores it at the mobile station in the form of a matrix; see [0033 - 0035; 0045; 0062 - 0063])** ; identifying an originating cell of a received communication signal **(since cell site ID is disclosed, therefore, the cell is identified; see [0063])**; and estimating GPS time using the repository of cell-to-GPS timing data, the identity of the originating cell, and a time indicator portion of the received communication signal **(since GPS signals**

are used by the mobile station to determine its own location, where, information such as offset, cell ID, and cell timing data is utilized; see [0033 - 0035; 0045; 0062 - 0063]).

Consider **claim 2** as applied to claim 1, Turetzky et al. disclose determining a first timing offset between a time indicator portion of a first communication signal from a first cell and a time indicator portion of a GPS communication signal (**since a database of "offsets" is disclosed that inherently mean using the time indicator portion of the communication signal to generate the offset; see [0062])**; determining a second timing offset between a time indicator portion of a second communication signal from a second cell and a time indicator portion of a GPS communication signal **(since a database of "offsets" is disclosed that inherently mean using the time indicator portion of the communication signal to generate the offset; see [0062])**; and maintaining the first and second timing offsets and identifiers for the associated first and second cells in the repository of cell-to-GPS timing data **(since a database of "offsets" and "cell IDs" are disclosed; see [0062 - 0063])**.

Consider **claim 3** as applied to claim 2, Turetzky et al. disclose identifying an originating cell of a third communication signal **(since the database comprises "cell IDs" therefore, the cell identifiers for multiple cells are disclosed including a third cell; see [0062; 0063])**; and estimating GPS time comprises using the repository of cell-to-GPS timing data, the identity of the originating cell, and a time indicator portion of the third communication signal to estimate GPS time **(since the database comprises "offsets", "cell IDs", and the offsets are determined based on the time indicator**

portion of the communication signal that are used to determine GPS time; see [0045; 0062 - 0063]).

Consider **claim 4** as applied to claim 2, Turetzky et al. disclose determining a time difference between receiving a predetermined portion of a frame structure of the first communication signal from the first one of the cells and receiving a time indicator portion of a GPS communication signal; and determining a time difference between receiving a predetermined portion of a frame structure of the second communication signal from the second one of the cells and receiving a time indicator portion of a GPS communication signal **(since the reference discloses observing transitions and timing events on frames in order to determine GPS time; see [0041 - 0042]).**

Consider **claim 5** as applied to claim 1, Turetzky et al. disclose acquiring GPS signals using the estimated GPS time **(since the reference discloses using approximate GPS time to acquire GPS signals; see [0042])**.

Consider **claim 6** as applied to claim 1, Turetzky et al. disclose retaining cell-to-GPS timing data for a plurality of the cells in a non-volatile memory in the mobile terminal **(since the reference discloses storing "offsets" and "cell IDs" at the mobile station and "on all future starts..." (read as non-volatile memory); see [0059; 0062 - 0063])**.

Consider **claim 7** as applied to claim 1, Turetzky et al. disclose transmitting at least a portion of the repository of cell-to-GPS timing data from the mobile terminal to a base station **(since the reference discloses transmitting drifts rates that are calculated at the phone, to the network; see [0035]).**

Consider **claim 8**, Turetzky et al. disclose cell-to-GPS timing data structure used for estimating GPS time at a mobile terminal, the data structure being embodied in a computer readable medium, the data structure comprising **(see abstract; [0045; 0062 - 0063])**: a cell identifier field that is configured to include more than one cell identifier **(since the reference discloses a database of "cell IDs"; see [0063])**; and a cell-to-GPS timing offset field that is configured to include more than one timing offset value, each of the timing offset values corresponding to at least one of the cell identifier fields and representing a timing offset between a time reference for communication signals from the associated cell and a GPS time reference (**since the reference disclose the database comprises "offsets" and "cell IDs", where the offsets are based on the system time and the GPS time; see [0033; 0062 - 0063])**.

Consider **claim 9** as applied to claim 8, Turetzky et al. disclose a time drift field that is configured to include data that provides an estimate of timing error rate for the timing offset values **(since the reference disclose time drift in the database at the mobile station; see [0035; 0062 - 0063])**.

Consider **claim 10**, Turetzky et al. disclose a method for estimating GPS time in a mobile terminal that operates in a wireless communication system, the method comprising **(see abstract and [0045])**: operating the mobile terminal on a communication channel in a cell in the wireless communication system, the communication channel having a cell time reference **(since the reference discloses determining an offset at the mobile station using system time; see [0033 - 0034])**; receiving a GPS communication signal at the mobile terminal, the GPS communication

signal having a GPS time reference **(since the reference discloses using GPS time to determine an offset at the mobile terminal; see [0033 - 0034])**; determining in the mobile terminal cell-to-GPS timing data that is representative of a timing offset between the cell time reference and the GPS time reference **(since determining an offset is disclosed at the mobile station; see [0033 - 0034])**; and estimating in the mobile terminal a GPS time based on a time indicator portion of the communication channel and the cell-to-GPS timing data **(since calculating GPS time is disclosed based on the offset information; see [0033 - 0034; 0045]).**

Consider **claim 11** as applied to claim 10, Turetzky et al. disclose estimating a timing error rate for the cell time reference of the communication channel **(since the reference discloses a drift rate; see [0034])**; and estimating in the mobile terminal the GPS time based on the time indicator portion of the communication channel, the estimated timing error rate for the cell time reference, and the cell-to-GPS timing data **(since the reference discloses determining GPS time based on drift time, time indicator portion, and offset data; see [0033 - 0034; 0045; 0062 - 0063])**.

Consider **claim 12** as applied to claim 11, Turetzky et al. disclose measuring a cell time reference **(since the reference discloses determining offset based on system time; see [0033])**; measuring a GPS time that corresponds close in time to the measured cell time reference **(since the reference discloses determining offset based on GPS time; see [0033])**; repeating at least one more time the measuring of the cell time reference and the measuring of the corresponding GPS time **(since the reference discloses a database comprising "offsets" meaning offsets for more**

than one cell; see [0062 - 0063]); and estimating the timing error rate for the cell time reference based on variation between corresponding pairs of cell time references and GPS times **(since the reference discloses "drift" that inherently means timing error; see [0035; 0048; 0063]).**

Consider **claim 13**, Turetzky et al. disclose a method for estimating GPS time in a mobile terminal that operates in a wireless communication system, the method comprising **(see abstract; [0045])**: operating the mobile terminal on a communication channel in a cell in the wireless communication system, the communication channel having a time reference **(since the reference discloses determining an offset at the mobile station using system time; see [0033 - 0034])**; receiving timing advance data on the communication channel, wherein the timing advance data is indicative of distance between the mobile terminal and a base station that is servicing the communication channel; determining a time reference for the base station based on the timing advance data and the time reference of the communication channel **(since the reference discloses "BS time" at the mobile station, therefore, the timing advance data is inherent to be at the mobile station or if the base station time is known at the mobile, as in the reference, then there is no need for the timing advance data; see 0059])**; receiving a GPS communication signal at the mobile terminal, the GPS communication signal having a GPS time reference **(since the reference discloses using GPS time to determine an offset at the mobile terminal; see [0033 - 0034])**; generating cell-to-GPS timing data at the mobile terminal that is representative of a timing offset between the time reference for the base station and the GPS time

reference (since determining an offset is disclosed at the mobile station; see [0033 - 0034]) ; and estimating GPS time based on the cell-to-GPS timing data and a time indicator portion of a communication signal from the base station **(since calculating GPS time is disclosed based on the offset information; see [0033 - 0034; 0045])**.

Consider **claim 14** as applied to claim 13, Turetzky et al. disclose a control channel and a traffic channel, and wherein receiving timing advance data on the communication channel comprises receiving the timing advance data on the traffic channel, and wherein determining a time reference for the base station comprises determining a time reference for the control channel and compensating the control channel time reference based on the timing advance data **(since the reference discloses "BS time" at the mobile station, therefore the base station reference time is already known and methods of determining base station time is of no particular importance to the claimed invention and is merely a design choice, what is important is having the base station time at the mobile station; see [0059])**.

Consider **claim 15**, Turetzky et al. disclose a mobile terminal comprising **(see abstract; [0045])**: a receiver that is configured to receive communication signals from cells in a wireless communication system **(see [0045])**; a GPS receiver that is configured to receive GPS signals **(see [0045)**; a memory containing a repository of cell-to-GPS timing data that is representative of timing offset between GPS time and cell time for two or more cells **(since the reference discloses a database of "offsets"**

with "cell IDs" stored at the mobile station; see [0033; 0045; 0062 - 0063]); and a processor that is configured to identify an originating cell of a received communication signal, and is configured to estimate GPS using the repository of cell-to-GPS timing data, the identity of the originating cell, and a time indicator portion of the received communication signal **(since the reference disclose that GPS signals are used by the mobile station to determine its own location, where, information such as offset, cell ID, and cell timing data is utilized and would mean that the mobile station inherently has a processor to perform said functionalities; see [0033 - 0035; 0045; 0062 - 0063])**.

Consider **claim 16** as applied to claim 15, Turetzky et al. disclose the repository of cell-to-GPS timing data is representative of a timing offset between a first GPS time and a time indicator portion of a communication signal from a first cell, and is representative of a timing offset between a second GPS time and a time indicator portion of a communication signal from a second cell **(since a database of "offsets" is disclosed that inherently mean using the time indicator portion of the communication signals to generate the offsets and ; see [0062 - 0063])**.

Consider **claim 17** as applied to claim 15, Turetzky et al. disclose the GPS receiver is configured to acquire GPS signals using the estimated GPS time **(since the reference discloses using approximate GPS time to acquire GPS signals; see [0042])**.

Consider **claim 18** as applied to claim 15, Turetzky et al. disclose the memory is a non-volatile memory that retains the repository of cell-to-GPS timing data after power

has been removed from the mobile terminal **(since the reference discloses storing "offsets" and "cell IDs" at the mobile station and, "on all future starts..." (read as non-volatile memory); see [0059; 0062 - 0063])**.

Consider **claim 19** as applied to claim 15, Turetzky et al. disclose the processor is configured to communicate at least a portion of the repository of cell-to-GPS timing data to a base station **(since the reference discloses transmitting drifts rates, calculated at the phone, to the network; see [0035])**.

Consider **claim 20**, Turetzky et al. disclose a mobile terminal comprising (see abstract; [0045]): a receiver that is configured to receive communication signals from cells in a wireless communication system **(since the reference discloses determining an offset at the mobile station using system time; see [0033 - 0034])**; a GPS receiver that is configured to receive GPS signals, and is configured to determine a GPS time reference from the received GPS signals **(since the reference discloses using GPS time to determine an offset at the mobile terminal; see [0033 - 0034])**; and a processor that is configured to estimate a cell time reference from the received communication signals, and is configured to generate cell-to-GPS timing data that is representative of a time offset between the cell time reference and the GPS time reference, and is configured to estimate a GPS time based on a time indicator portion of a received communication signal and the cell-to-GPS timing data **(since calculating GPS time is disclosed based on the offset information using cell time reference and GPS time reference and therefore, the mobile station would inherently comprise a processor; see [0033 - 0034; 0045])**.

Consider **claim 21** as applied to claim 20, Turetzky et al. disclose the processor is configured to estimate a timing error rate for the cell time reference, and is configured to estimate the GPS time based on the time indicator portion of the received communication signal, the estimated timing error rate for the cell time reference, and the cell-to-GPS timing data **(since the reference discloses determining GPS time based on drift time, time indicator portion, and offset data; see [0033 - 0034; 0045; 0062 - 0063])**.

Consider **claim 22**, Turetzky et al. disclose a mobile terminal comprising **(see abstract; [0045])**: a receiver that is configured to receive communication signals from cells in a wireless communication system **(since the reference discloses determining an offset at the mobile station using system time; see [0033 - 0034; 0045])**; a GPS receiver that is configured to receive GPS signals, and is configured to determine a GPS time reference from the received GPS signals **(since the reference discloses using GPS time to determine an offset at the mobile terminal; see [0033 - 0034; 0045])**; and a processor that is configured to estimate a cell time reference from the received communication signals, and is configured to determine a time reference for a base station based on the cell time reference and timing advance data from the base station, and is configured to generate cell-to-GPS timing data that is representative of a time offset between the time reference for the base station and the GPS time reference, and is configured to estimate a GPS time based on a time indicator portion of a received communication signal and the cell-to-GPS timing data **(since the reference discloses "BS time" at the mobile station, therefore, the timing advance data is inherent to**

be at the mobile station or if the base station time is known at the mobile station, as is in the reference, then there is no need for the timing advance data and determining timing advance data is merely a matter of design without any bearing on the functionality of the claimed invention; in addition, calculating GPS time is disclosed based on the offset information determined using cell and GPS reference time; see [0033 - 0034; 0045; 0059]).

Conclusion

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1102. The Examiner can normally be reached on Monday-Friday from 9:30am to 7:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Fayyaz Alam

January 20, 2007

EDAN ORGAD
PRIMARY PATENT EXAMINER